Business Studies (UGC - CARE Listed Journal Group I, ISSN 0970-9657)
Volume – XLIV, No. 1, January, 2023

Fintech Sector of India – Trends, Challenges and the Way Forward

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Abstract

Indian fintech sector has experienced unprecedented growth over the last few years. Firms in almost all the segments such as micro and MSME lending, Insurtech, wealthtech, regtech have secured substantial investment from investors worldwide due to their commendable performance and growth potential. This article is a humble attempt to capture this growth story and identify the factors responsible for the same. The article also aims to assess the challenges faced by the sector and what can be the possible solution for the same. Finally, it attempts to perform a neutral assessment of the future growth potential of this sector given the recent regulatory initiatives and dynamic business conditions that exist.

Keywords: Fintech, Insurtech, Wealthtech, Digital Revolution, Digital Payment, Alternative Lending, Start-Ups, Digital Infrastructure, Internet Penetration

1. Introduction

During the past decade, India experienced the digital transformation in multiple spheres of economy that has reshaped the customer experience in product or service delivery, ease of access of services and above all a trustworthy technological ecosystem in which offerings are customized to a large extent. However, the one area that has, perhaps, attracted attention of most of us is the growing application of infotech in the area of finance. The digital revolution has redefined the banking and financial services enabling itself to create new horizons almost every day. These changing dimensions of the technology-enabled financial services have led to the advent of a powerful breed of tech-enabled firms that are evolving continuously to make financial solutions more affordable; they are the Fintech firms.

Meaning of Fintech

As per the Cambridge Dictionary, 'fintech' is the abbreviation of the term '*financial technology*'; though in the business literature, it means '*the business of using technology to offer financial services in new and better ways*'. The Financial Standard Board (FSB), a leading international organization that monitors fintech activities and assess their implications for financial stability, defines 'fintech' as '*technologically enabled innovation in financial services that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services*'. Thus, fintech is the umbrella term that refers to all tech-enabled financial innovations aimed at improving the ease of access of financial services and also the quality of the financial services offerings.

2. Origin and Development of Fintech

Financial technology, perhaps, has been evolving ever since the banks started providing online services. The term 'fintech' also gained traction only recently. However, the origin of fintech, in its primitive form, can be traced back to the latter half of 19^{th} Century when people began moving money through telegrams and morse code. More specifically, the interlinkage of finance and technology has a long history and together they evolved through three distinct eras **(Arner et al., 2015)** as follows:

Fintech 1.0 (1866 – 1967): Pre-digitization Era

Development of the fundamental infrastructure for the first major attempt of financial globalization with the introduction of telegraph in 1838 and laying of the first successful transatlantic cable in 1860, perhaps, can be considered the earliest instances of fintech. Subsequently, the introduction of Automated Teller Machine (ATM) in 1967 by Barclays Bank marked the inception of modern era of financial technology. The code breaking tools that were commercially developed into early computers by IBM and invention of handheld calculators by Texas Instruments in 1967 were also the giant leaps in this direction. In 1950s, credit cards were introduced in America by Diners' Club (1950), Bank of America (1958) and American Express (1958). Interbank Card Association (presently MasterCard) was established in 1966. In 1964, Xerox Company came up with its first commercial version of fax machine. Thus, by 1966, a global telex network was already in place that provided the foundation for the next round of fintech turnaround.

Fintech 2.0 (1967-2008): Era of Traditional Digital Financial Services

In the sphere of payments and settlements, the Inter-Computer Bureau was initiated in UK in 1968. This subsequently formed the ground for today's Bankers' Automated Clearing Services (BACS). A somehow similar arrangement, the US Clearing House Interbank Payments System (CHIPS) was introduced in 1970. Fedwire, which was operating as a telegraphic system since 1918 was also converted into an electronic system. Responding to the need for a cross-border interconnected payment system, Society of Worldwide Interbank Financial Telecommunications (SWIFT) was established in 1973. Soon after this, the fall of Herstatt Bank in 1974 raised the need for addressing the increased risk of international financial linkages. This triggered the regulatory intervention in form of a series of international soft law agreements on devising a robust payment and settlement system. In the field of securities transactions, the establishment of NASDAQ in USA in 1971 and subsequently the National Market System, brought the end of physical trading era in securities dated back to 1600s. In the personal banking segment, introduction of online banking in USA and UK (by Nottingham Building Society) in 1983 marked the beginning of fintech in personal transactions. Financial institutions also started applying fintech in their internal operations. By 1984, usage of Bloomberg terminals became a common phenomenon. Some even argued the possible role of computerized trading system (which automatically bought and sold securities based on pre-set price levels) behind the great 1987 stock market crash. Regulators from the late 1980s, therefore, started to consider the fintech issues while framing regulations. Moreover, financial services, from this very period, became largely a digital industry with ever increasing volume of transactions among the financial market participants across the globe.

Internet set the next stage of fintech development since 1995 with the use of World Wide Web (www) to provide online account checking by Wells Fargo. By 2005, banks without physical branches were introduced (e.g., ING Direct, HDFC Direct) in UK.

India was also not far behind in this fintech revolution. Indian banking sector adopted computerization in late 1980s. In 1987, HSBC bank introduced the first ATM. ECS was started by RBI in 1990. In 1991, India joined SWIFT. In 1996, online banking was introduced by ICICI which was immediately followed by other banks such as HDFC bank and IndusInd bank. In 2002, mobile banking, in form of

SMS banking was introduced. RBI started RTGS in 2004 and NEFT in 2005. Cheque Truncation System (CTS) was introduced in 2008.

Fintech 3.0 (2008 – till date):

The Great Financial Crisis of 2008 caused a massive turnaround leading to the third stage of fintech evolution, or better called revolution. Financial crisis and its aftereffects changed the public perception about banking services, increased the amount of regulatory scrutiny on banks and above all destabilized the economic conditions across nations. As a result, the business policies and structures of banks were reshaped to provide banks more risk absorbing capacity. Banks also turned to P2P lending platforms and other innovations. Though not directly, but the reduced job opportunities following the financial crisis brought about a start-up boom with extremely talented entrepreneurs floating their business ideas in diverse fields including finance. India, with a pool of young and skilled population soon joined this bandwagon.

India was well off during the Great Financial Crisis because of its robust regulatory framework for the banking industry. It strengthened such framework further by incorporating the tech angle in framing the regulations. In 2010, RBI introduced IMPS (Immediate Payment Service). In 2016, the Unified Payment Interface (UPI) took the digitization in financial transactions to a new level. The demonetization initiative of 2016 immensely promoted digital payment adoption and contributed significantly to the rise of a whole host of digital payment solution providers and financial innovators.

3. Fintech Start-Ups

A start-up is generally an emerging business firm with willingness to embrace change and take risk to explore and utilize opportunities. Most of them rely on non-traditional channels for funding and is characterized with high amount of risk.

Accordingly, Fintech start-ups are the fledging business firms that provide tech-enabled financial solutions that are affordable and innovative. On some fronts they are the alternatives of traditional financial service providers while on others they come up with unimaginably intelligent and innovative financial products or services.

Emergence and Growth of Fintech Start-Ups in India

Though, in India, fintech was evolving since 1980s in a steady pace, fintech start-ups emerged much later. Pine Labs, a digital payment solution provider, was founded in 1998. Bill Desk, another payment gateway company, was established in 2000. Policybazar, an online insurance aggregator, was founded in July 2008. Paytm was founded in 2010 as a prepaid mobile and DTH recharge platform. In 2014, Lendingkart, an online financing company, was established. Between 2010 and 2015, a total of 1216 new fintech start-ups were founded in India **(India Fintech Report 2020, MEDICI).** In 2014-15 there was a massive uptick in fintech start-ups' numbers which grew from 210 in 2014 to 454 in 2015 – a 116% increase in growth. The period between 2015 to June 2020 saw massive growth in new fintech start-ups across various segments. The demonetization drive and government push for faster adoption of digital payments were the keys behind such a phenomenon spurt in fintech firms in India. According to the MEDICI Report 2020, India had the second highest number of new fintech start-ups in the last three years after USA (excluding China). As of June 2020, India has around 2174 fintech start-ups with Bengaluru and Mumbai contributing to almost 42% of the fintech companies. Following are the segment-wise and city-wise break-up.

Table 1: Segment-wise Break-up of Fintech Firms in India as of H12020

Segments	No. of Firms
Payments	405
Lending	365
WealthTech	313
Personal Finance Management	173
InsurTech	111
RegTech	58
Other Segments	748

Source: MEDICI India Fintech Report (2020), 2nd edition

Table 2: City-wise Break-up of Fintech Start-ups in India as of H12020 (Top 10 Cities)

Cities	No. of Firms
Bengaluru	447
Mumbai	437
Delhi	208
Chennai	104
Pune	88
Noida	77
Kolkata	47
Ahmedabad	35
Gurugram	28
Hyderabad	13

Source: MEDICI India Fintech Report (2020), 2nd edition

Total investments in Indian fintech start-ups crossed the $10 Bn mark during 2016 to the first half of 2020, with $5.4 Bn investment in the last three quarters i.e., January 2019 to June 2020 (Figure 1). Even amid the Covid-19 crisis, fintech investments rose to $1467 Mn in H12020 as compared to $919 Mn in H12019 i.e., an increase of 60%.

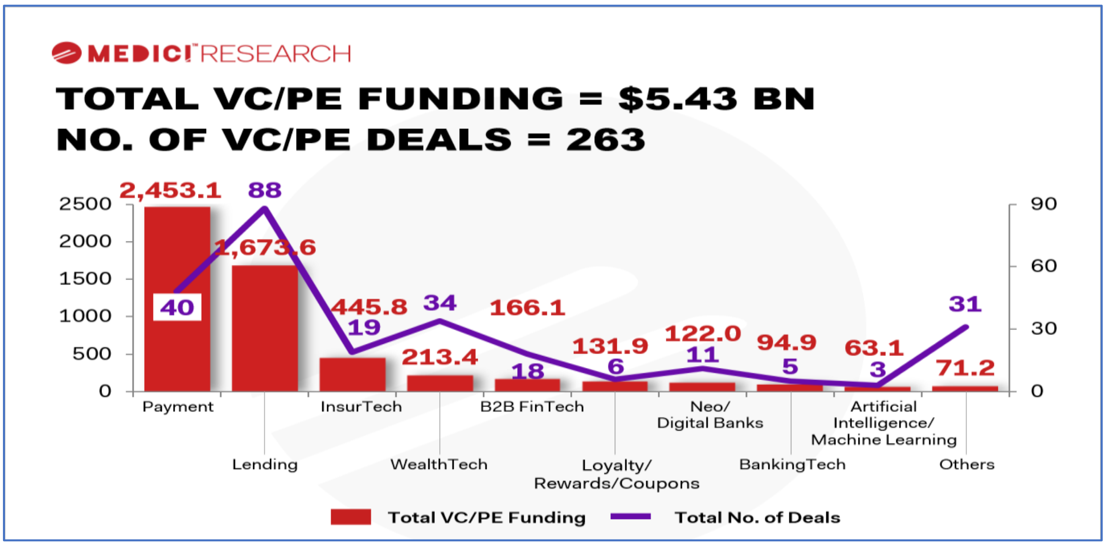

Figure 1. Segment-wise investment in Indian fintech sector during January 2019 to June 2020 (MEDICI India Fintech Report 2020, 2nd edition)

The stage-wise breakup of the above funding is as follows (Figure 2).

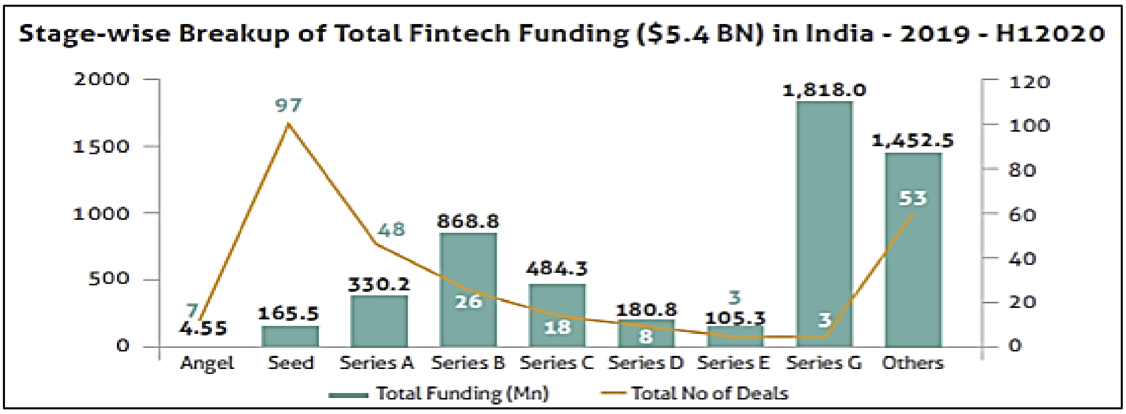

Figure 2. Stage-wise break-up of funding (MEDICI India Fintech Report 2020, 2nd edition)

India also emerged as the nation with Asia's highest fintech investment activities (Venture Capital, Private Equity Investment and Merger Acquisition) with deal value of around $647.5 Mn across 33 deals, leaving behind China with only $284.9 Mn deal value during the quarter ended June 30, 2020. In H12021, the fintech and financial services sector topped the charts, raising $1.89 billion across 98 deals (Start-up Funding Report H12021). Also, India, along with China, has the highest adoption rate of 87% (global adoption rate is 64%) out of all the emerging economies.

4. Fintech Environment in India

Fintech firms have reshaped the Indian financial services sector including lending, insurance, digital payment, wealth management, regulation and others with rapid pace.
The fintech environment in India can broadly be classified into the following categories:

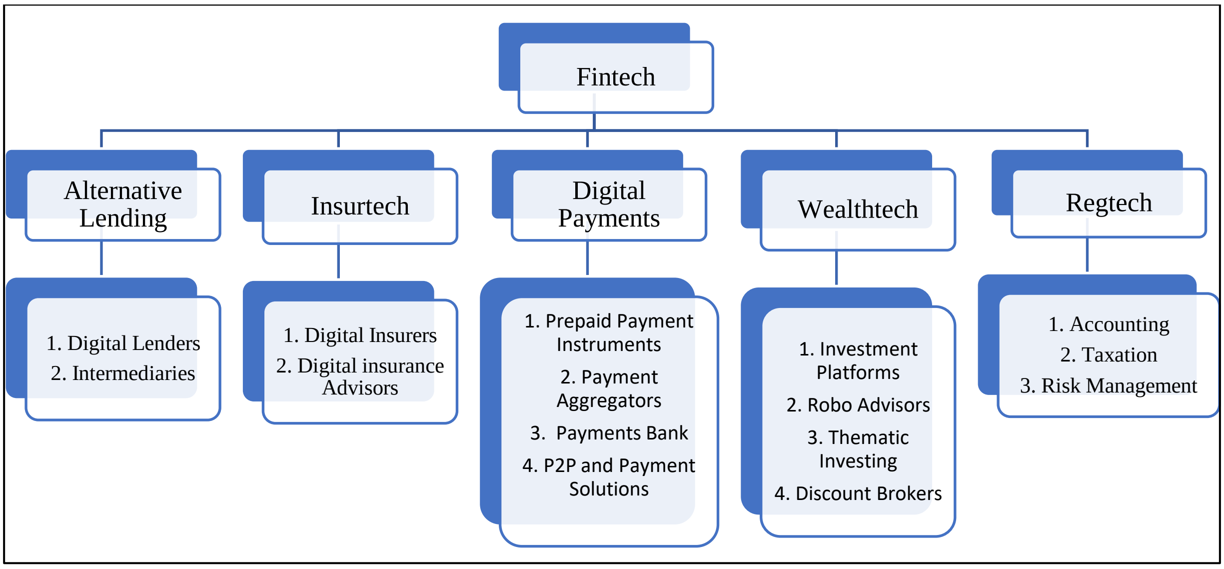

Figure 3: Fintech Environment in India

Alternative Lending: This segment uses client data and technologies like Artificial Intelligence and Machine Learning for application screening and loan disposal and also provide aggregation services. The key sub-segments are –

- Digital Lending (Retail lending – e.g., InstaPaisa, Rupeek; Merchant lending – e.g., Lendingkart)
- Intermediaries including P2P platforms (e.g., LenDenClub) and aggregators (e.g., Bankbazar.com)

Insurtech: This segment is focusing on selling insurance products at the point of purchase of a product or service, digital settlement of claims, small ticket insurance (Sachet Insurance) and aggregation services. The key sub-segments are –

- Digital Insurers (e.g., Digit and Acko)
- Digital Insurance Advisor (e.g., Policybazar, Coverfox.com)

Digital Payments: This segment is the most funded section of the fintech firms in India which have so far got the maximum government support to lead the adoption of electronic payment after the 2016 demonetization drive. The sub-segments are –

- Prepaid Payment Instruments
- Payment Aggregators (Mobile and Digital Wallets)- e.g., Paytm, Freecharge, Phonepay
- Payment Gateway – e.g., BillDesk, CCAvenue
- Payment Bank – e.g., Paytm Payment Bank
- P2P Payment – e.g., Phonepay

Wealthtech: These firms use sophisticated technologies including AI, Machine Learning and Analytics to offer investment and wealth management services. The key sub-segments include –

- Investment Platform – e.g., ETmoney, Smallcase
- Digital Discount Brokerages – e.g., Zerodha
- Thematic Investing – e.g., Trendlyne
- Robo advisor- e.g., Kuvera, Scripbox

Regtech: These firms offer solutions targeted at the new and complex regulations that traditional financing firms and fintech firms are subject to. They also provide risk management services. The key sub-segments are –

- Accounting – e.g., Khatabook
- Taxation – e.g., Cleartax, EaseMyGST
- Risk Management – e.g., CustomerXPs
- E-KYC – e.g., Signzy, inVOID

Others Segments: Among the other emerging trends are Neobanks. These are digital only banks that form tie-ups with existing banks and provide data-driven customized services at a very affordable cost. Examples include Niyo, Jupiter, Neo etc.

5. Key Drivers Behind the Rise of Fintech Start-Ups in India

Following are the key factors contributing to the unprecedented growth of fintech firms in India in recent years:

Advancement in technology: As the name suggests, fintech offerings are tech-driven. As a result, the recent developments in technology, more particularly, in the sphere of Artificial Intelligence (AI), Blockchain and Analytics, Biometrics, Machine Learning, Cloud Computing etc. assumed a significant role in the expansion of fintech in India.

Improved Digital Infrastructure: The Indian government has strengthened the digital infrastructure rapidly over the years in various ways. Among them the most ambitious societal initiative globally is India Stack which is a set of APIs that allows government, businesses, developers and start-ups to utilize a unique digital infrastructure to solve real problems digitally. It has played an enabling role in India’s digital revolution. Aadhar and UPI are the most significant components of this stack.

Government Initiatives: A significant number of government initiatives including Jan Dhan Yojna, Digital India programme, issuing Payment bank licenses, Start-up India programme, categorizing P2P lenders as NBFCs, has a significant role in the building a fintech ecosystem in India by bringing together the customers, regulators and business firms.

Well Placed Regulations: RBI and other regulators have always adopted a consultative and pro-start-up approach towards fintech firms in India. Introduction of Regulatory Sandbox by RBI and IRDAI in 2019 ensured a balance between the sectoral orderly growth through innovative offerings by start-ups. Timely changes in regulations to allow the scope of financial innovations (like UPI) and categorizing P2P lenders as NBFCs provided a big boost to the development of this sector.

Conducive Funding Environment: The fintech sector is characterized by high initial investment at the formation stage with low marginal cost at subsequent stages of growth. This essentially increases the operating risk manifold. Hence, traditional financing platforms do not support fintech firms. They attract funding mostly from Venture Capitals and Private Equity firms. Considering the huge market in India, national and international players are putting their money in Indian fintech start-ups. In 2019 itself, the sector attracted funding of $3.96 Bn, 2.4 times the funding of 2018. Global investors provided a favourable funding environment to fintech sector within which it grew rapidly.

Mobile and Internet Penetration: Another important contributor behind the meteoric development of fintech firms in India is the faster rate of internet and mobile penetration. In 2020, India reported the second largest internet population of over 749 million following China thanks to lower internet service costs and budget smartphone. In 2020, the internet penetration rate in India was 53.92% while the mobile phone internet user penetration rate was 60.5%. By 2040, the figure is likely to cross 1.5 billion. Since fintech services are customer driven, higher penetration of internet and increased mobile usage have accelerated the development of fintech start-ups.

Greater Customer Adoption: In India, the rate of fintech adoption is 87% in 2019 vis-à-vis the average adoption rate of 64% over 27 markets across the world. The rate is even higher than that of UK and Russia and is as much as China. Ease of operation, round the clock service, compatibility with daily operation and infrastructure, access through smartphone, paperless transactions are the key in this respect. Higher customer adoption has strengthened the growth potential of this segment.

Cost Effectiveness: Fintech firms generally have a cost advantage over their traditional counterparts. By leveraging on technology, they significantly cut down the acquisition cost of customers, cost of servicing and also the distribution cost. For example, the digital only banks leverage high end technology to expand their customer base while limiting their physical operations.

Favourable Demographics: India's present demographic structure is characterized by the presence of more than 65% of population not above the age of 35 years. The younger generation is tech-savvy and is ready to welcome the application of innovative technology in all fields of life. Fintech firms are aiming this section of population for faster acceptance of their offerings.

6. Top Indian Fintech Firms – The Fintech Unicorns

During the recent years India saw a significant jump in the numbers of unicorns. Unicorns are start-ups whose value is $ 1 Bn or above. According to Hurun Global Unicorn List 2020, India was the home to 21 unicorns with a collective valuation of $73.2 Bn as on 31.03.2020. The number went up to 37 by the end of 2020 **(Source: Venture Intelligence)** and the same is 71 till date with 34 new entrants in 2021 itself. Amongst these unicorns, more than one-third firms belong to the fintech sector which also attracted the majority of the investments till date. In 2021, seven more fintech firms have joined the list.

Following are some of the leading unicorns of Indian fintech sector.

Paytm: Founded in 2008, Paytm has a current valuation of around $16 Bn, the highest among all the fintech start-ups and second highest among all start-ups. It is primarily an app-based wallet for consumer payment against purchase of e-commerce products and also mobile and utility bill payments. It also owns Paytm Mall, an e-retailer.

Policy Bazar: Founded in 2008, it belongs to insurtech segment. It is basically an online aggregator which provides comparisons among various insurance products such as life, health and cars insurance etc. It also performs claim processing activities. Its present valuation is around $2.4 Bn.

Phone Pe: Founded in December 2015, PhonePe is an Indian digital payment and financial services company. The PhonePe app was introduced in August 2016. Currently it has 280 million customers with a valuation of approximately $5.5 Bn.

CRED: Founded in 2018, CRED is a Bangalore based fintech company that allows reward-based credit card payments to its members. It also helps customers managing multiple credit cards along with an analysis of credit score. It has a valuation of around $4 Bn.

Digit Insurance: Founded in December 2016, it is a company that offers general insurance including car, travel and home insurance. Its mission is to simplify the offerings and redesign the price processes. It has a valuation around $3.5 Bn.

Groww: Founded in 2016, Groww provides an online investment platform for investment in mutual funds and stock at affordable costs. The company has managed to the unicorn list in 2021. It has a valuation of $3 Bn.

BharatPe: Founded in March 2018, BharatPe is an Indian fintech firm operating in digital payment space. Its products array includes interoperable QR code for UPI payments, Bharat Swipe for card acceptance and finance for small businesses. It made to the unicorn list in 2021. Currently, it has a valuation of $2.8 Bn.

7. Challenges for Fintech Start-Ups in India

Regulatory Uncertainty: Indian fintech firms are largely governed by existing banking and securities regulations which at times appear to be extremely stringent for fintech firms. These regulations not only drive up the costs of operations for fintech firms but also hampers innovation – the core characteristic of fintech. Without a fintech specific regulation these firms also experience extreme difficulties to raise additional capital. The regulators, therefore, must design a regulatory framework that balances the issues like customer protection, data privacy and create an ecosystem that fosters innovation.

Systematic Risk: Unlike traditional banks, fintech firms lend from debt funds or equity funds. Hence, with the unprecedented expansion of fintech start-ups and massive growth in underlying delinquencies inherent to the nature of the credit flow, the system wide risk proliferation has become a cause of concern. Hence, a prudential regulation is an urgent need for this sector.

Data Security and Privacy Risk: This is one of the biggest challenges that Indian fintech sector is confronting now. Since, fintech start-ups' business models are highly dependent on outsourcing of technical and cloud-based services to cut down the cost of operation, they are extremely vulnerable to cybersecurity risk. The cybersecurity risk includes data breaches, application security risk, cloud-based security threats and digital identity risks. To combat such issues, regulators need to follow a balanced approach to prevent hackers from gaining the access of sensitive data and put in place stringent regulations including a mandatory data localization policy.

Financing: The Yes Bank India Fintech Opportunities Review, 2017 pointed out that 71% of pre-revenue and 81% idea-stage fintech start-ups faced severe difficulty in raising finance. The PoC (Proof of Concept) funding could be obtained by only 11%. Though, there is growth in overall funding of fintech start-ups, obtaining early-stage funding is still a bigger challenge for these firms. In the month of April 2020, China introduced restrictions on foreign investments which have further worsen the situation.

Fragmented Market: Following the sudden surge in fintech opportunities in India backed by the Digital India mission of the Government, many players are participating in this sector with no meaningful differentiation in their products. This is simply overcrowding the sub-segments, making the market fragmented. Consequently, capturing growth, increasing market share through customer acquisition will be extremely challenging unless the industry consolidates in a big way.

Low Adaptation Rate in Tier II Cities and Rural India: Though the overall adaptation rate of fintech is quite satisfactory, the adaptation rate in other than Tire I cities and in rural India is still a cause of concern. Lack of technological adaptation, awareness are the main reasons behind the same. Since rural India will be the major growth driver for the sector in the long run, the issue of lack of rural penetration must be addressed for maintaining the growth momentum.

8. The Future Outlook

The future outlook of fintech landscape in India looks extremely promising.

Recent Landmark Regulatory Initiatives

Recently, there has been a slew of regulatory measures from various Indian regulators that are promising grate potential for Indian fintech sector.

- The capital market regulator, SEBI, has relaxed the norms to enter the mutual fund business. This is expected to benefit the fintech firms in a big way.
- SEBI has also eased the norms for start-up listing in India. For example, now the early-stage investors will have to hold 25% of the pre-issue capital for only one year instead of the previous requirement of two years. Also, the IPO-bound start-ups can allocate up to 60% of the issue size to any eligible investor with a lock-in of 30 days on such shares. Currently, start-ups going public are barred from making discretionary allotments. SEBI has also relaxed the threshold trigger for open offers from existing 25% to 49% for start-ups except in certain specified situations. For willing start-ups, delisting will be considered successful if the acquirer or promoter shareholding, along with the shares tendered and accepted, reaches 75% of issued shares of that class, and a minimum of 50% of the public shareholding is tendered and accepted. Moreover, the reverse book-building mechanism will not be applicable to start-ups seeking to go private.
- RBI announced cross border payment as its theme for the second cohort and MSME lending for the third cohort under the RBI regulatory sandbox initiative. The eligibility norms for applicants are relaxed by reducing net worth requirement from INR 25 Lakh to INR 10 Lakh and allowing partnership firms and limited liability partnerships to participate in the regulatory sandbox.

Innovation is on a Winning Spree

Fintech firms are innovating financial services in an unprecedented speed. Digital EMI or Pay Later Transactions are gaining popularity among the players in the FMCG sector, auto dealers, fashion and retail stores, restaurants and even among small traders. The same is already highly accepted in online retailing. Digital delivery of financial services is also gaining acceptance from customers in the post-Covid world. Indian population is getting accustomed with digitization slowly and steadily.

Huge Unaddressed Opportunities:
While the Jan Dhan Yojana drive ensured the availability of basic banking services to the larger section of the population, its integration with the formal financial sector is far from satisfactory. The penetration rate of financial products like insurance (4% of GDP), mutual funds (less than 2% of the population) are way below the global benchmarks. In India, only one-sixth of the MSMEs have access to credit from the formal sources. This alone reflects an opportunity of $340 Bn.
All these are creating the much-expected conducive ecosystem that is imperative to continue the momentum for fintech sector to grow unbeaten. In a report by Research and Markets, it has been gauged that the sector will grow at a compound annual growth rate (CAGR) of 22.7% during 2020-2025. The growth is expected to be both horizontal by enabling financial services accessible to a greater number of people and also vertical by innovating new technologies to manage finance easily. According to a Boston Consulting Group Report published in March 2021, the fintech sector in India will reach a valuation of $150-160 Bn by 2025 as against the present valuation of $50-60 Bn.

9. Conclusion

Technology is going to rule the future. Innovation will be the key to success. Indian start-ups, in general, and fintech firms, in particular, are riding on these two key drivers. Given the size of potential consumer base, the sector is bound to grow. The other factors just need to play the role of catalysts to make the growth phenomenal. The growth will not only be financially rewarding but may also help India to achieve its dream of financial inclusion on the back of digitization.

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